

The Solar Way: PV Collaborations with Native American Organizations

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ABSTRACT

The Solar Way: Photovoltaics on Indian Lands documents how photovoltaics - as a power source - is in harmony with the Native American Seven Generations philosophy: caring for the earth and the people on it, caring about the future generations, and living as sovereign people for Seven Generations to come. The booklet is being published by Sandia National Laboratories.

Sandia has developed a strong relationship with the Navajo Tribal Utility Authority (NTUA) and Sandia has been providing PV technical assistance directly to NTUA. Sandia's Photovoltaic program has grown this relationship through joint formation of strategic multi-year plans oriented toward the development of sustainable Native American renewable energy projects and associated business development.

The NTUA and other Native American PV programs serve as models for other tribes and these experiences can directly apply to rural utilities across nation. It also addresses the opening of a large sustainable market for PV with the rural electrical cooperatives.

1. The Solar Way: Photovoltaics on Indian Lands

There are more than 500 tribes of American Indians and Alaskan Natives living in the United States. These First Americans live in more than 40 states, on and off reservations lands that range in size from only a few city blocks to millions of square miles of rural lands. They may live in abject poverty or they may be beneficiaries of newly accumulated wealth. It is a mistake to consider that all tribes are the same or that all their needs are the same.

But with all their diversity, they cherish some common values: caring for the earth and the people on it, caring about future generations, and living as sovereign people for Seven Generations to come. Within the booklet, *The Solar Way*, the Seven Generations philosophy is presented along with how photovoltaics - as a power sources - is in harmony with this philosophy and is a technology that fits easily with these values.

Simply put, PV captures the sun's energy to generate electricity. It can be used anywhere the sun shines to generate electricity cleanly and quietly and independently - no noxious fumes, not obtrusive power lines. Solar electricity is an enabling technology. It enables tribes to install the power they need for

preserving traditions, encouraging sovereignty, maintaining independence, creating jobs, choosing lifestyles, and caring for the earth and her people - for Seven Generations to come.

2. Memorandum of Understanding (MOU)

Sandia National Laboratories, Navajo Nation and the Department of Energy signed a Memorandum of Understanding authorizing collaboration and technology transfer for the Navajo Nation. The collaboration emphasizes energy, environment, education, economic development, and communication. The Memorandum of Understanding (MOU) reinforces Sandia's commitment to the Navajo and other tribes are requesting similar technical assistance.

NTUA serves as the Navajo's utility cooperative and throughout their service area, 200 photovoltaic systems have been purchased and installed by NTUA at individual residences. Sandia National Labs has been providing technical assistance and training to NTUA for their particular photovoltaic system. Sandia has trained the majority of the NTUA electricians, engineers and customer service technicians. Other assistance included monitoring performance/operation of PV systems in the field and conducting performance tests on NTUA system at Sandia.

3. User/Customer Forums

NTUA's Kayenta District has the majority of the PV units installed; therefore, the first customer forum was held at the Kayenta Community Chapter House, in Kayenta, Arizona. A live radio broadcast, all in the Navajo language, covered the majority of the reservation and helped to promote PV and the NTUA program.

The NTUA customer forum provided a platform for presenting information on understanding photovoltaics and the PV system in general. Considerable time for questions and answers was provided along with an opportunity for customers to see the components of the system in a supervised manner.

4. Native American Program Development

Based on tribal needs, strategic partnerships between Sandia, various tribes and Native American organizations will create viable renewable energy options. Strategies for program success include new partnership development; existing partnerships enhancements; outreach and promotion; and communication of results.

Future plans with NTUA include providing assistance on sustainability issues, maintenance process development and other technical training activities. Also planned are determination of life-cycle costs of fielded stand-alone PV system, monitoring and data collection of installed systems, continued technical assistance and capacity building, business development geared toward sustainability and growth of present activities, monitoring and regular evaluation of installed projects as well as the overall implementation plan.

5. Acknowledgement

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REFERENCE

M. Thomas, C. Brooks, G. Sisneros, *The Solar Way: Photovoltaics on Indian Lands*, Sandia National Laboratories (draft, to be published December 2001).